L 09269-67 EWT(1)/EWG(k)-2 SOTB TT/DD/GD/GW

ACC NR: AT6036480 SOURCE CODE: UR/0000/66/000/000/0034/0036

AUTHOR: Arzhanov, I. M.; Beregovkin, A. V.; Bryanov, I. I.; Buyanov, P. V.; Zaloguyev, S. N.; Kamen'shchikov, Yu. V.; Kovalev, V. V.; Krasovskiy, A. S.; Kuznetsov, S. V.; Litsov, A. N.; Nikitin, A. V.; Nistratov, V. V.; Poruchikov, Ye. A.; Potkin, V. Ye.; Teret'yev, V. G.; Fedorov, Ye. A.; Khlebnikov, G. F.; Yaroshenko, G. L.

ORG: none

TITLE: Results of clinical and physiological investigations of the crew of the first multiman Voskhod spacecraft [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24 to 27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 34-36

TOPIC TAGS: space medicine, space physiology, weightlessness, bodily fatigue, stress reaction, combined stress, cardiovascular system, central nervous system, manned spaceflight/Voskhod-1

ABSTRACT: The inclusion of a physician in the crew of the Voskhod-1 made it possible to increase medical investigations of the crew members during flight and to compare them with results of preflight and postflight examinations. The scope of the physiological examinations was selected in order to obtain a more complete evaluation of the functional condition of the cardiovascular and central nervous systems, and the function of

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external respiration of the cosmonauts. Physical exercises and orthostatic tests were included to detect earlier signs of physiological shifts.

Examinations were carried out before and after training in the ship, where certain conditions of flight were simulated, and also two weeks before flight. Postflight examination was begun fifteen minutes after landing and was continued for the first four days after the flight and also two weeks later.

After landing, the cosmonauts were active, looked somewhat excited, and complained of general fatigue. They were found to have hyperemia of the mucosa of the upper respiratory tract and conjunctivitis.

Komarov's weight dropped by 2.6%, Feoktistov's weight dropped by 4%, and Yegorov's by 3.9%. Weight loss was determined by Zhdanov to be due to water and fat loss. Neurological examination revealed a light swaying in the Romberg position, a tremor of the fingers, and increased perspiration. In addition, Yegorov showed a contraction of the retinal arteries. Disruption of vision and vestibular difficulties were not noted. Changes in EEG indicated an increase in inhibitory processes in the cortex of the brain. A diminution in work capacity was established by

psychological experiments (increase in the number of mistakes, increase in latent periods).

Indices of cardiovascular activity during rest did not exceed wide norms. However, an increase in pulse frequency was noted (Komarov up to 96, Feoktistov up to 100, and Yegorov up to 94 beats/min), as well as moderate drop in arterial pulse pressure at the expense of an increase in diastolic pressure. All three cosmonauts, when subjected to exercise, showed a significant increase in the pulse rate and inertia in the stroke volume. Feoktistov and Yegorov showed a significant diminution in the heart stroke volume and minute circulation of the blood during the passive orthostatic test. This could indicate a disruption of the venous inflow to the heart.

Postflight blood examinations indicated neutrophilic leukocytosis and eosinopenia. Urine was found to contain significant quantities of salts, chiefly urates, single erythrocytes (in the field of vision), and an increase in the excretion of 17-oxycorticosteroids. Eosinopenia, an increase in excretion of products of hormone decomposition, indicated the development of a stress reaction in cosmonauts. Since some of the indications found on the flight were also found after training in the train-

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ACC NR: AT6036480

0

ing ship, there is reason to attribute them to limitation of motor activity under conditions of weightlessness. The functional shifts found after flight are indications of a general fatigue, a moderate stress reaction, and a certain amount of detraining. In general, the changes observed in the cosmonauts were of one type. The differences found between the cosmonauts can be attributed to individual differences. [W.A. No. 22; ATD Report 66-116]

SUB CODE: 06, 22 / SUBM DATE: 00May66

Card 4/4 egh

L 08268-67 FSS-2/EWT(1)/EEC(k)-2 SCTB TT/DD/GD/GW

ACC NR: AT6036481 SOURCE CODE: UR/0000/66/000/000/0036/0037

10

AUTHOR: Arzhanov, I. M.; Bryanov, I. I.; Baturenko, V. A.; Beregovkin, A. V.; Buyanov, P. V.; Kovalev, V. V.; Kondrakov, V. M.; Krasovskiy, A. S.; Kuznetsov, O. N.; Kuznetsov, S. V.; Nikitin, A. V.; Nistratov, V. V.; Teret'yev, V. G.; Fedorov, Ye. A.; Khlebnikov, G. V.

ORG: none

52
13+1

TITLE: Some results of the postflight examination of P. I. Belyayev and A. A. Leonov following their flight on the Voskhod-2 spacecraft [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24 to 27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 36-37

TOPIC TAGS: space medicine, postflight medical examination, bodily fatigue, body weight, cardiovascular system, oculocardiac reflex, unconditioned reflex, space psychology, oxygen consumption, respiration, pulmonary ventilation/Voskhod-2

ABSTRACT: Postflight examinations of the Voskhod-2 crew members, Leonov and Belyayev, were performed on the third and fourth days after the flight and again a month later. The cosmonauts complained of light fatigue. They were found to have hyperemia of the mucosa of the nose and throat and conjunctivitis of the eyelids and eyeballs. They had lost weight

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L 08268-67

ACC NR: AT6036481

Their pulse showed a certain lability. Pulse frequency rose significantly during mild physical exertions and changes in the position of the body. There was an increase in intraventricular conductivity, an increase in the systolic index (7—11%), and a delay in restoration of hemodynamic indices after physical exercise.

Belyayev's oxygen consumption increased by 23% and Leonov's by 14% as compared with preflight levels. Vital capacity of the lungs diminished by 8—12%, while pulmonary ventilation increased by 51—18%.

Neurological examinations revealed a light tremor of the fingers, a high orthostatic reflex with an absence of pulse reaction to the oculo-cardiac reflex, and an increase in the slow bioelectrical activity of the brain cortex. Psychological tests revealed an increase in distribution and in the middle magnitudes of the duration of the period of sensory motor reaction. Since this was not accompanied by errors, it is possible to assume that the fatigue observed in cosmonauts was a compensatory reaction. Blood and urine examination on the third day after flight did not differ substantially from preflight levels. Biochemical examination uncovered an increase of chlorides, adrenalin, noradrenalin, and 17-oxycorticosteroids in the urine.

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ACC NR: AT6036481

The observed shifts in physiological indices were short-term and reversible. They indicated the development of moderately marked fatigue in the subjects. Thus, despite the complexity of the flight, the postflight examinations revealed only moderate functional changes in the two cosmonauts. There was no difference in the nature of these changes in the cosmonauts. This indicates a high degree of training and a good neuropsychological and physical preparation for spaceflight. [W.A. No. 22; ATD Report 66-116]

SUB CODE: 06, 22 / SUBM DATE: 00May66

Card 3/3 egk

KOVALEV, V., inzh.

Simple device for measuring capacitance. Radio no.7:50-52 Jl '65. (MIRA 18:9)

KUV[illegible] V. V.

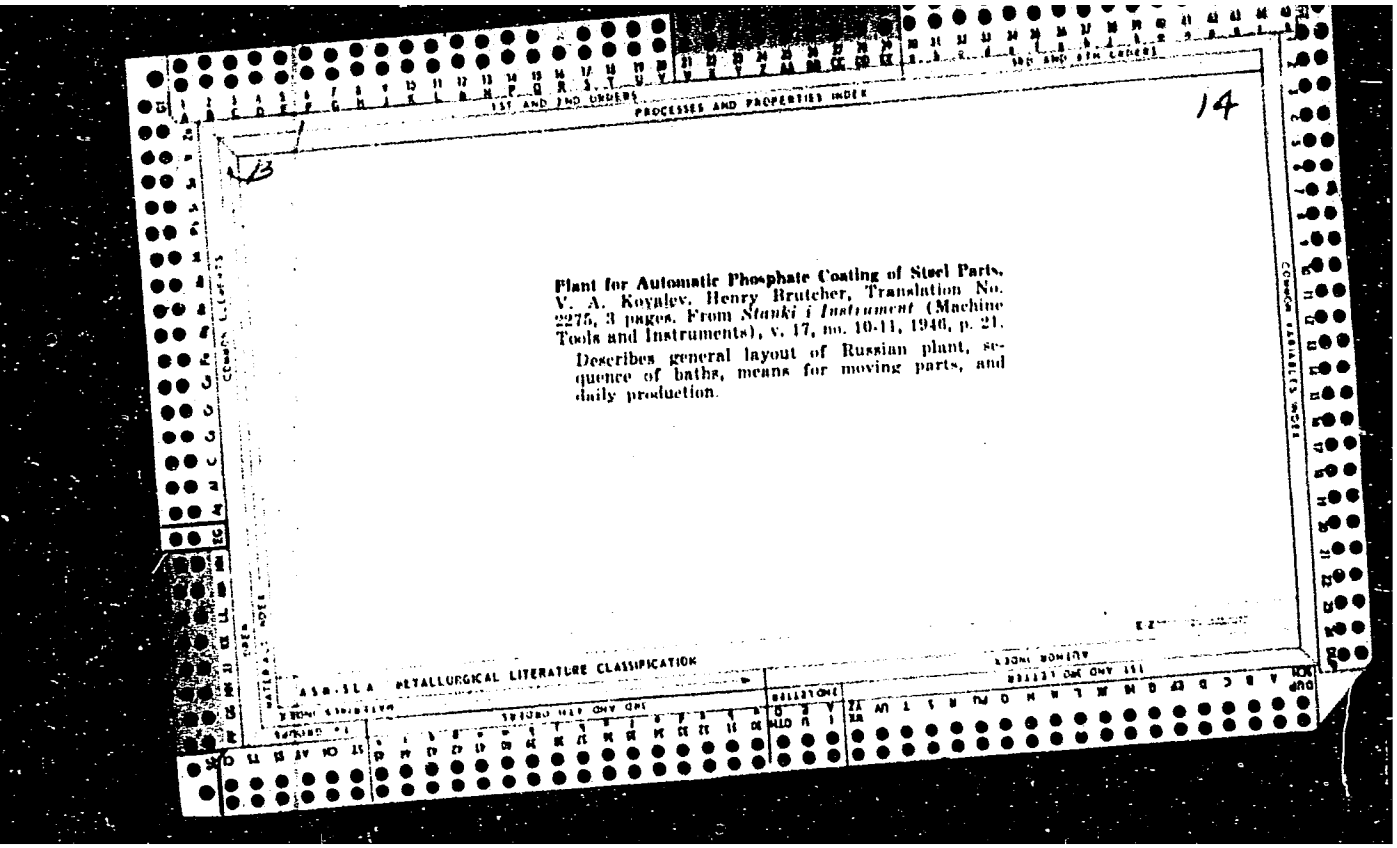
[illegible]ifferent behavior of uranium and thorium in the course of the lithogenesis of variegated sediments. Dokl. AN BSSR 9 no.8:537-540 Ag '65. (MIRA 18:10)

1. Laboratoriya geokhimicheskikh problem AN BSSR.

BADALYAN, L.O.; KOVALEV, V.V.

Neuropsychiatric disorders in hypoxemic states caused by surgical treatment of heart defects. Vest. AMN SSSR 19 no.6:63-69 '64.
(MIRA 18:4)

1. II Moskovskiy meditsinskiy institut imeni Pirogova.



PROCESSES AND PROPERTIES INDEX

14

Plant for Automatic Phosphate Coating of Steel Parts. V. A. Koyalev, Henry Brutcher, Translation No. 2275, 3 pages. From *Stanki i Instrument* (Machine Tools and Instruments), v. 17, no. 10-11, 1946, p. 21.

Describes general layout of Russian plant, sequence of baths, means for moving parts, and daily production.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1. KOVALEV, V. A.

2. USSR (600)

4. Lukin, IU. B.

7. "Mikhail Sholokhov. Critical-biographical survey." IU. Lukin. Reviewed by V. A. Kovalev. Sov. Kniga no. 12 1952.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

1. KOVALEV, V. A.

2. USSR (600)

4. Excavating Machinery

7. Render the work of the excavator more effective. Biul. stroi. tekh. 9 No. 20, 1952.

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

LUNEVA, V. S. and KOVALEV, V. A.

"Quick Method for Deterimining the Protective Capacity of Concistants Lubricants."

in book Study and Use of Petroleum Products, Moscow Gostoptekhizdat, 1957, 213pp.

This collection of articles gives results of scientific research work of the All-Union Scientific Research Inst. for the Processing of Petroleum and Gas for the Production of Synthetic Liquid Fuel.

KOVALEV, V.A.

LUBEVA, V.S.; KOVALEV, V.A.

Rapid method for determining protective properties of greases.
Trudy VNII NP no.6:219-232 '57. (MIRA 10:10)
(Lubrication and lubricants) (Corrosion and anticorrosives)

KOVALEV, V.A.

Semiautomatic machines for the drawing of trimming interlacing curved lines on rims and shields of bicycle wheels. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch. i tekh.inform. 16 no.3: 40-43 '63. (MIRA 16:11)

L 44218-66

ACC NR: AP6017997 (A) SOURCE CODE: UR/0413/66/000/010/0106/0106

INVENTOR: Kovalev, V. A.; Pobozhiy, A. M.; Bolvakin, Yu. P.; Makarevich, V. Ya.; Rumyantsev, A. V.

14
B

ORG: none

TITLE: Flexible suspension braeket. Class 47, No. 181907. [announced by the Special Design Office for Mining Equipment (Spetsial' noye konstruktorskoye byuro gornoobogatitel' nogo oborudovaniya)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 10, 1966, 106

TOPIC TAGS: ~~bracket,~~ suspension bracket, ~~flexible bracket~~ handtool

ABSTRACT: An Author Certificate has been issued for a flexible suspension bracket consisting of a stationary and a moving part, with a shock absorber between them, and a clamp bolt. To facilitate simultaneous vertical and angular movements of the

Card 1/2 UDC: 62-219.52-752

L 44218-66

ACC NR: AP6017997

moving part, paired knife-edges are mounted beneath the moving part on top of the stationary part. [KP]

SUB CODE: 13/ SUBM DATE: 19Feb65/

Card 2/2

KOVALEV, V.A.

Manganese concretions in the Lower Triassic sediments of the Pripet fault and their association with reduction-oxidation conditions governing the formation of separate layers. Dokl. AN BSSR 8 no. 3:179-183 Mr '64. (MIRA 17:5)

1. Laboratoriya geokhimicheskikh problem AN SSSR. Predstavleno akademikom AN BSSR K.I.Lukashevym.

PAVLOV, V.V.; KOVALEV, V.A.

Extensive cavernous hemangioma. Zdrav. Kazakh. 22 no.10:71-72 '62. (MIRA 17:5)

1. Iz Severo-Kazakhstanskogo oblastnogo onkologicheskogo dispansera.

KOVALEV, V.D.

The TEM2 shunting diesel locomotive with 1200 h.p. capacity.
Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch.i tekh.inform.
no.5:71-72 '62. (MIRA 15:7)
(Diesel locomotives)

GAVRILOV, V.A.; KOVALEV, V.A.

Use of the backscattering principle in measuring horizontal and nonhorizontal atmospheric transmissivity. Trudy GGO no. 153: 28-55 '64. (MIRA 17:9)

80289

S/170/60/003/04/18/027
B007/B102

15.2200
5.4100

AUTHORS: Frenkel', A. S., Shakhtin, D. M., Kovalev, V. D.

TITLE: Measurement of the Diffusion Rate in Refractory Materials by Means of the Absorption Method

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1960, Vol. 3, No. 4, pp. 108-110

TEXT: In earlier papers (Refs. 1, 2, 3) the method of taking-off layers (Ref. 4) was used for the determination of the diffusion coefficient by means of radioactive isotopes. In the paper of Ref. 5 the absorption method was employed in the investigation of the autodiffusion of copper. This method was improved for the case of an application of isotopes with beta- and gamma-emission as indicators (Ref. 6). The determination of the diffusion coefficient according to the improved method consists in measuring the activity of beta- and gamma-radiation before and after annealing. The respective solution of the general diffusion equation is used for the determination of the diffusion coefficient: formula (1). In the present paper this method was used by the authors for studying the diffusion of ferrous oxides in refractory chromium-magnesite materials and in the main components of the blast-furnace burden. The experiments are briefly

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Measurement of the Diffusion Rate in Refractory Materials by Means of the Absorption Method

described. When the measured absorption coefficients were used in calculating the diffusion rate, considerably lower values compared to those of the taking-off layers method were obtained. Analogous results were obtained in the papers mentioned in Refs. 8 and 9. The analysis of the results showed that the absorption coefficient μ of beta-radiation when measured according to the absorption method is not equal to the μ-value determined according to the direct method. An assumption is made concerning the reasons of such a divergence. In order to remove factors which cause this divergence and which cannot be estimated, the absorption coefficient μ of beta-radiation was determined by an indirect way, as in the paper mentioned in Ref. 12. The dependence of the mass absorption coefficient $M\varrho$ (cm^2/g) on the ratio of the integral intensities of beta- and gamma-radiation was determined by experiment for various refractory materials (Fig. 1). The experiments showed that it is possible to employ the convenient absorption method in the study of absorption processes in refractory materials. The temperature dependence of the diffusion coefficients of some refractory materials is given in Fig. 2 as an example of the application of the absorption method in determining the diffusion parameters. There are 2 figures and 12 references, 10 of which are Soviet.

Card 2/3

21(4), 28(5), 15(2) S/032/60/026/02/020/057
AUTHORS: Shakhtin, D. M., Kovalev, V. D. B010/B009

TITLE: Absorption of Co^{60} Beta Radiation in Refractories

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol 26, Nr 2, pp 173 - 175 (USSR)

ABSTRACT: The coefficients of the absorption of beta rays in various refractories (Cr_2O_3, Al_2O_3, Fe_2O_3, chromite, chromium magnesite) were determined and the influence of the geometrical factors upon the absorption coefficients was investigated by means of aluminum and mica laminas. The source of radiation was a thin layer of a Co^{60} preparation. A BFL-25 end window counter was used for recording. The operating distance between source of radiation and counter was 5 cm. The most accurate exponential function of the beta ray absorption was obtained (Fig 2, Curves) when the ray absorber was placed twice as far from the counter as from the radiation source (Fig 1). The present experiments were therefore conducted with such an arrangement. The values of the absorption coefficients obtained with the above materials are given (Fig 3); they exhibit

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a maximum error of 1%. Simultaneously the absorption coefficients of type R_mO_n compounds were calculated by means of an equation from data furnished by V. I. Baranov (Ref 5) and compared with the measured values (Table 1). Part of the measured values differ greatly from the calculated values. If the exact absorption coefficient of a chemical compound is required it has therefore to be established experimentally. The absorption coefficients of the refractory materials (chromite, chromium magnesite) calculated from the absorption coefficients of the oxides contained in them agree satisfactorily with the experimental data (Table 2). There are 3 figures, 2 tables, and 6 references, 4 of which are Soviet

ASSOCIATION: Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov (Ukrainian Scientific Research Institute of Refractories)

S/131/60/000/010/001/002
B021/B058

AUTHORS: Frenkel', A. S., Shakhtin, D. M., and Kovalev, V. D.

TITLE: The Use of Tagged Atoms for Investigating the Diffusion of Iron Oxide in Refractory Chromium Magnesite Products

PERIODICAL: Ogneupory, 1960, No. 10, pp. 460 - 467

TEXT: The present paper gives the results obtained from a study of the process mentioned in the title. The method of removing layers by grinding and the absorption method were used for measuring the diffusion. The indicator was applied in the form of a fine-disperse suspension. A radioactive iron oxide preparation was used as diffusing material. The samples were fired in an electric kryptol furnace of the type ВНИИО-120 (VNIIO-120). Thin layers were ground off the samples after firing, and the remaining activity of the samples was measured. The radiation intensity was measured by radiometric systems of the type Б (B) and Б-2 (B-2). Counters of the type МСТ-17 (MST-17) and Т-25 БФЛ (T-25 BFL) were used for the β-radiation. The tangent of the angle of inclination of the straight line was graphically determined according to the method by P. L. Gruzin

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(Fig. 1). Positive results were also obtained with the absorption method. The characteristics of the refractory products investigated are listed in Table 1. The values of the diffusion coefficients for samples from purified chromite may be seen from Table 2 and their temperature dependence from Fig. 2. The temperature dependence of the diffusion coefficients for chromium magnesite samples is mentioned in Fig. 3, and reference is made to the paper by V. V. Goncharov. The calculated phase composition of the refractory magnesite products investigated is given in Table 3. The temperature dependence of the diffusion coefficients of refractory magnesite products is shown in Fig. 4 and that of the refractory products investigated in Fig. 5. The authors state in conclusion that the measurements of the diffusion coefficient were checked and defined by the method of grinding-off and that of the absorption method. Both methods produced conforming results. There are 5 figures, 3 tables, and 11 references: 9 Soviet.

ASSOCIATION: Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov (Ukrainian Scientific Research Institute of Refractories)

KOVALEV, V.F.

KHITROV,V.N.; KOVALEV,V.F.

Our experience in the use of dry plaster. Torf.prom.32 no.5: 22-24 '55. (MLRA 8:10)

1. Stroitel'noye upravleniye Tesovo.
(Plastering)

KOVALEV, V. F.

KOVALEV, V. F.: "The development of large ore deposits by a combined system using rubbish by-pass." Min Higher Education Ukrainian SSR. Kiev Order of Lenin Polytechnic Inst. Kiev, 1956. (Dissertation for the Degree of Candidate in Technical Science.)

Knizhnaya Letopis'
No 32, 1956. Moscow.

KOVALEV, V.F., inzhener.

Some defects in the M-4 tractor-mounted loader. Torf.prom. 34 no.5:14-15 '57. (MIRA 10:10)

1. Stroyupravleniye Tesovo.
(Loading and unloading) (Clearing of land)

KOVALEV, V.F.; MATYUNIN, A.A.; CHUMACHENKO, G.M.

Repairing the lining of water-cooled pipes of a ring furnace.
Sbor.rats.predl.vnedr.v proizv. no.5:36-37 '60. (MIRA 14:8)

1. Pervoural'skiy Novotrubnyy zavod.
(Furnaces—Maintenance and repair)

SOKOLOV, A.A.; PETRENKO, F.F.; KOVALEV, V.F.; YELISEYEV, M.A.; ROZENPLENTER, N.F.; YANCHUKOVICH, A.E.; CHUBAROV, N.D.; KONTSEVOY, N.S.; PREOBRAZHENSKIY, V.A.; BOCHAROV, M.S.; KASHCHEYEV, G.G.; SELENNOV, G.V.; SAFONOV, K.Ye.; FUNIKOV, S.A.; RASKIN, G.I.; RABKIN, B.M.

Vadim Konstantinovich Gutsunaev; obituary. Torf.prom. 39 no.3:37 '62. (MIRA 15:4)
(Gutsunaev, Vadim Konstantinovich, 1914-1942)

GREZIN, V.F., kand. veter. nauk; PODKOPAYEV, M.V., kand. veter nauk; KOVALEV, V.F., nauchnyy sotrudnik; TSVETKOV, Ye.I., nauchnyy sotrudnik

Effectiveness of colimycin and mycerin in gastrointestinal diseases of calves and piglets. Veterinariia 39 no.11:67-68 N '62. (MIRA 16:10

1. Gosudarstvennyy nauchno-kontrol'nyy institut veterinarnykh preparatov.

L 23476-65 EWT(1)/EPF(c)/EPF(n)-2/EPR/T/EPA(sp)-2/EWA(1) Pr-4/Ps-4/

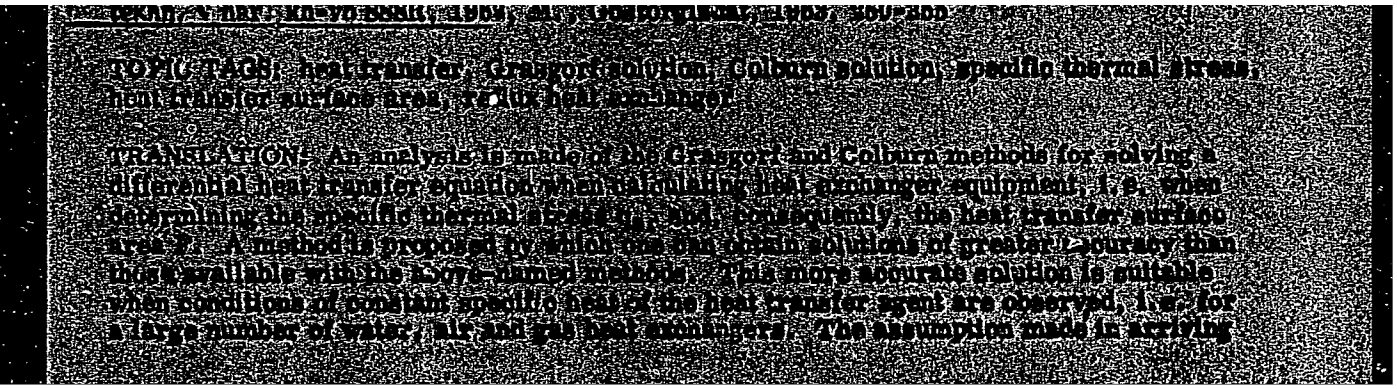
ACCESSION NR: AR4046862 S/0124/64/000/009/B056/B056

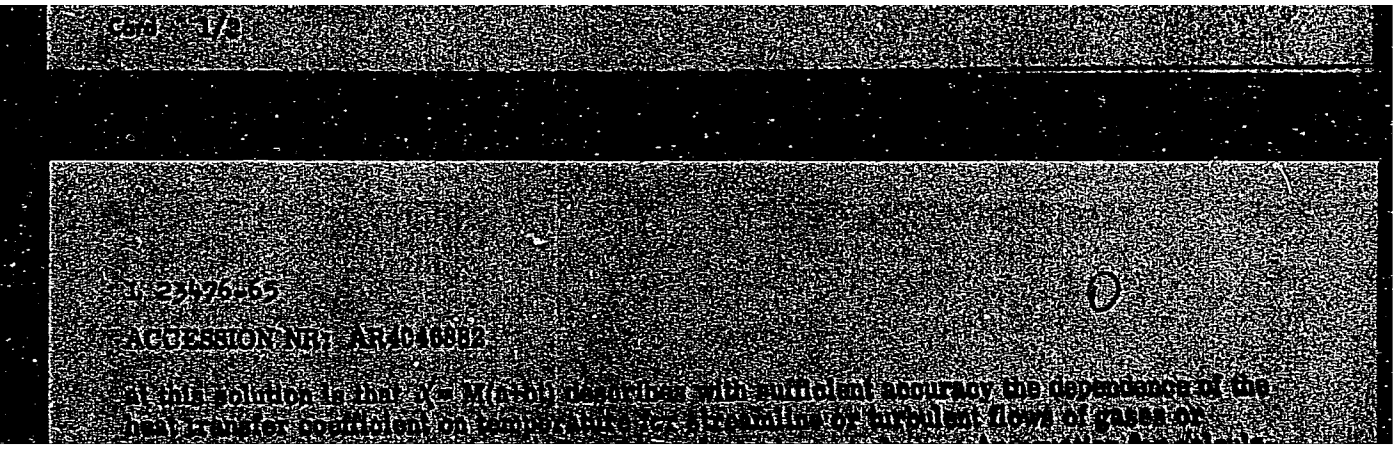
AUTHOR: Kanevets, G. Ye.; Kovalev, [illegible]

SOURCE: Ref. zh. Mekhanika, Abs. 9B400

TITLE: Analysis of solutions to a differential heat transfer equation

CITED SOURCE: Tr. Konferentsii po perspektivam razvitiya i vnedreniya kholodil'n...





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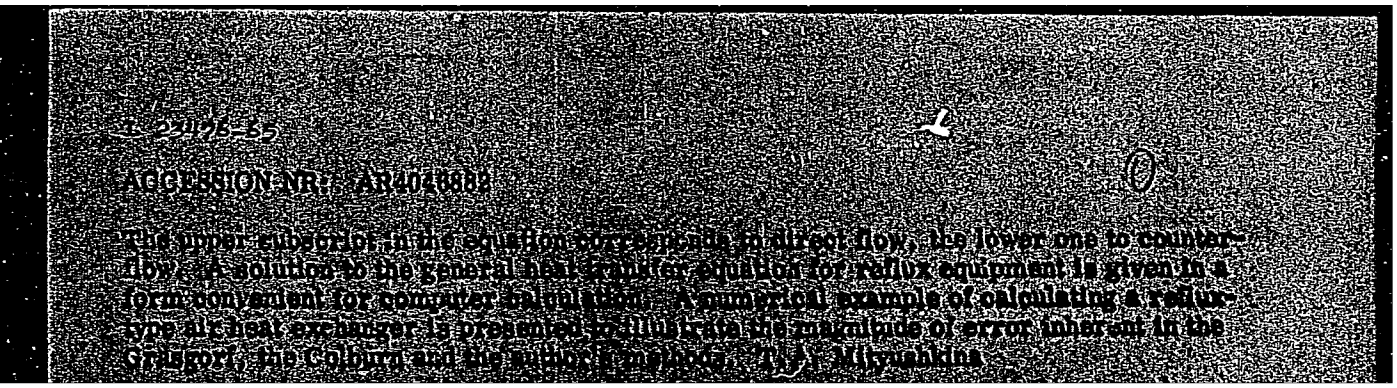
AT 23926-65

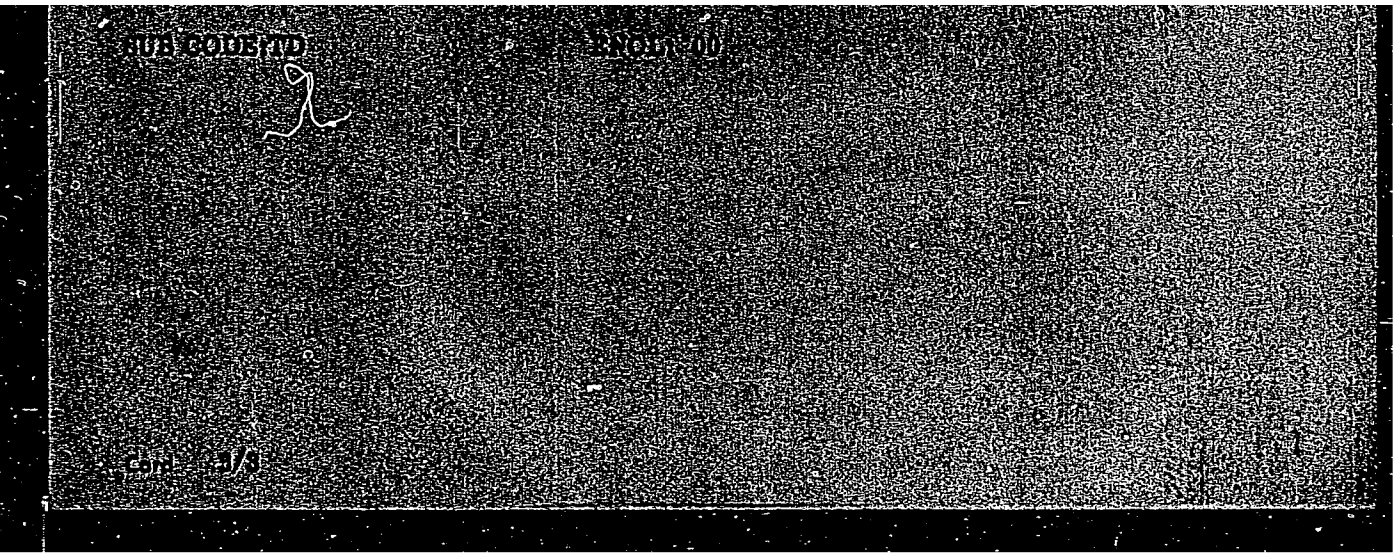
ACCESSION NR: AR4046982

In this solution in that $\chi = M(\kappa Sh)$ describes with sufficient accuracy the dependence of the heat transfer controlled on temperature [illegible] of turbulent flow of gases or



ACCESSION NR: AR4048888

This upper subscript in the equation corresponds to hot gas flow, the lower one to counterflow. A solution to the general heat transfer equation for radix equipment is given in a form convenient for computer solution. A numerical example of calculating a radix-type air heat exchanger is presented to illustrate the magnitude of error inherent in the approach, the Colburn and the authors method. [VS]



15-57-1-819

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 1, p 129 (USSR)

AUTHOR: Kovalev, V. F.

TITLE: Sapropel Resources in the Urals (Resursy sapropeley Urala)

PERIODICAL: V sb: Vopr. fizioterapii i kurortologii. Sverdlovsk, Knigoizdat, 1956, pp 8-12.

ABSTRACT: The sapropel deposits began to form in the Holocene. Their lower layers are determined to be about 20,000 years old. Sapropel deposits are absent in the steppe zone and are widespread in the taiga belts of the Urals and the trans-Ural region. Calcareous, siliceous, and mixed types of sapropel and distinguished. Vitamins, pigments, and antibiotics have been discovered in these sapropel deposits. In the Sverdlovsk Oblast alone, more than 200 sapropel lakes occur with a total reserve of over one billion tons. There are also many lakes in the Chelyabinsk and the Tyumen' Oblasts, but sapropel

Card 1/2

Sapropel Resources in the Urals (Cont.)

is unknown in them. At present sapropel is used chiefly for medicinal purposes and, in part, for fattening cattle. The total production of sapropel from all three districts is about 1000 tons per year. The question is raised concerning the industrial use of sapropel and concerning the necessity of mechanizing its extraction.

Card 2/2

A. M. Sh.

KOVALEV, V.F.

Mineral waters in the eastern slopes of the Urals and in the trans-Ural region. Trudy Gor.-geol. inst. UFAN SSSR no. 32:319-341 '59.
(MIRA 14:5)

(Ural Mountain region--Mineral waters)

KOVALEV, Vladimir Fedorovich; IVAKIN, V.V., kand.tekhn.nauk; RYZHIKOV, D.V. [deceased], kand.geol.-min.nauk; ARDASENOVA, L.P., red.izd-va; EBERGARDT, M.S., red.izd-va; SEREDKINA, N.F., tekhn.red.

[Underground waters in the central and northern trans-Ural region, and oil and gas potentials] Podzemnye vody Srednego i Severnogo Zaural'ia i voprosy gazoneftenosnosti. Sverdlovsk, 1960. 60 p. (Akademiia nauk SSSR. Ural'skii filial, Sverdlovsk. Gorno-geologicheskii institut. Trudy, no.47) (MIRA 14:1)
(Ural Mountain region—Water, Underground)
(Ural Mountain region—Petroleum geology)

KOVALEV, V.F.; KOVAL'CHUK, A.I.; KOZLOV, A.V.; YAKOVLEVA, V.G.

Use of hydrochemical methods in prospecting for copper ores in Uchaly District. Trudy Gor.-geol. inst. UFAN SSSR no. 48:93-109 '60. (MIRA 14:2)
(Uchaly District---Water, Underground) (Chalcopyrite)
(Geochemical prospecting)

KOVALEV, V.F.

Sapropel lakes on the eastern slope of the Urals and in the trans-Ural region. Trudy Gor.-geol. inst. UFAN SSSR no.48:135-167 '60.
(MIRA 14:2)

(Ural Mountain region--Sapropels) (Lakes)

KOVALEV, V.F.

Formation of underground waters in the central and northern trans-Ural region. Trudy Gor.-geol. inst. UFAN SSSR no.40:185-198 '59. (MIRA 13:11)

(Ural Mountain region--Water, Underground)

KOVALEV, V.F.; KOZLOV, A.V.; KOVAL'CHUK, A.I.; SOKOLOVA, V.G.

Hydrochemical methods of prospecting for copper pyrite depqsits in the Southern Urals. Geokhimiia no.7:596-603 '61. (MIRA 14:6)

1. Ural Branch of the Academy of Sciences, U.S.S.R., Institut of Mining and Geology, Sverdlovsk.
(Ural Mountains--Pyrites) (Geochemical prospecting)
(Water, Underground)

KOVALEV, V.F.; KOVAL'CHUK, A.I.; KOZLOV, A.V.; SOKOLOVA, V.G.

Hydrochemical characteristics of natural waters in the greenstone belt of the Southern Urals and problems of the formation of hydrochemical halos of dispersion in pyritic copper deposits. Trudy Inst.geol. UFAN SSSR no.62. Gidrogeol. sbor. no.2:3-22 '63. (MIRA 16:5)

(Ural Mountains--Water, Underground--Analysis)
(Ural Mountains--Chalcopyrite)
(Geochemical prospecting)

KOVALEV, V.F.; KOVAL'CHUK, A.I.; KOZLOV, A.V.; SOKOLOVA, V.G.

Formation of the chemical composition of natural waters in the region of the Blyava pyritic copper deposit. Trudy Inst.geol. UFAN SSSR no.62. Gidrogeol.sbor. no.2:33-69 '62. (MIRA 16:5)
(Blyava region—Water, Underground—Analysis)
(Blyava region—Chalcopyrite)

KOVALEV, V.M.

Brief news. Zhur.mikrobiol. epid. i immun. 31 no.3:155-156 Mr '60. (MIRA 14:6)

(EPIDEMIOLOGY)

NEMSHILOVA, N.A.; KOVALEV, V.M.

Work of the Kazan Research Institute of Epidemiology, Microbiology, and Hygiene in giving aid to public health workers. Zdrav. Ros. Feder. 5 no. 4:6-9 Ap '61. (MIRA 14:4)

1. Iz Kazanskogo nauchno-issledovatel'skogo instituta epidemiologii, mikrobiologii i gigiyeny.
(TATAR A.S.S.R.—COMMUNICABLE DISEASES—PREVENTION)

Kovalev V. N.

BUR'YANOV, V.F., kand.tekhn.nauk; KOVALEV, V.N., inzh.

Continuous light-section rolling mill no. 250 at the Krivoy Rog Plant. Biul. TSNIICHM no.17:22-27 (325) '57. (MIRA 11:4)
(Krivoy Rog Basin--Rolling mills)

Kovalev, V.N.

BUR'YANOV, V.F., kand. tekhn. nauk; KOVALEV, V.N., inzh.

Continuous wire-drawing mill at the Krivoi Rog Metallurgical Plant.
Biul. TSNIICHM no.6:18-23 '58. (MIRA 11:5)
(Krivoi Rog—Wire drawing)

KOVALEV, V.N.

Estimation of some factors for establishing standards of labor in the salt industry. Sbor.nauch.trud.UkrNIISol' no.6:105-109 '62. (MIRA 17:3)

KOVALEV, V.N.

Effect of short days on the growth and development of the white-seeded giant silage sunflower developed by the All-Union Agricultural Institute. Trudy Biol.inst.KirFAN SSSR no.3:61-75 '50.
(PLANTS, EFFECT OF LIGHT ON) (MLRA 8:5)
(SUNFLOWERS)

KOVALEV, V.N.

Spurge vetchling (Euphorbia lathyris L.), a valuable oil plant.
Trudy Biol.inst. KirFAN SSSR no.3:77-84 '50. (MIRA 8:5)
(OILSEED PLANTS)
(EUPHORBIA)

KOVALEV, V.N.

Work results of the Biological Institute on the occasion of the 25th anniversary of the Kirghiz S.S.R. Izv.KirFAN SSSR no.1/10: 35-42 '51. (MLRA 8:1)
(Kirghizistan--Biology, Economic)

KOVALEV, V.N.

Promising silage crops for the Kirgiz S.S.R. and organization of seed production of them. Trudy Biol.inst. KirFAN SSSR no.4:31-43 '51.
(KIRGHIZISTAN--FORAGE PLANTS) (MLRA 9:10)
(ENSILAGE)

—KOVALEV, V.N.

Spring sowing of winter wheat on follow under conditions prevailing in the Chuya Valley of the Kirghiz S.S.R. Trudy Biol.inst. KirFAN SSSR no.4:55-58 '51. (MLRA 9:10)
(CHUYA VALLEY--WHEAT)

KOVALEV, V.N.

The new "Silage giant-K" silage sunflower. Trudy Biol.inst. KirFAN SSSR no.4:81-85 '51. (MLRA 9:10)
(KIRGHIZISTAN--SUNFLOWERS--VARIETIES)

KOVALEV, V.N.

Effect of environmental conditions on changes in the heredity of winter rye. Trudy Biol. inst. KirFAN SSSR no.4:87-91 '51. (MLRA 9:10)
(TIEN SHAN--RYE) (BOTANY--VARIATION)

1. KOVALEV, V. N.

2. USSR (600)

4. Irrigation

7. Retention of rain water, Sad i og., no. 3, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

KOZLOVSKIY, A.I., doktor sel'skokhozyaystvennykh nauk; KOVALEV, V.N., kandidat sel'skokhozyaystvennykh nauk; NEMLIYENKO, V.K., nauchnyy sotrudnik; KAVUN, P.K., redaktor; PAVLOVA, M.M., tekhnicheskiy redaktor; BALLOD, A.I., tekhnicheskiy redaktor

[Corn in 1955] Kukuruza v 1955 godu. Moskva, Gos. izd-vo sel'khoz. lit-ry. no.5. [Siberian regions] Raiony Sibiri. 1956. 198 p.
(Siberia--Corn (Maize)) (MLRA 10:2)

KOVALEV, V.N.

Widespread application of virgin and waste land reclamation practices in Western Siberia in 1954. Trudy Biol. inst. Zap.-Sib. fil. AN SSSR no.3:45-62 '57. (MIRA 13:10)
(Siberia, Western--Reclamation of land)

Kovalev V. N.

AUTHOR: None Given 25-10-33/41

TITLE: "Agriculture in Sibiria" (Sel'skoye khozyaystvo Sibiri)

PERIODICAL: Nauka i Zhizn', 1957, # 10, p 60 (USSR)

ABSTRACT: A brief note about "The results of a triennial study of the soil in connection with the utilization of virgin soil" published in the journal "Sel'skoye Khozyaystvo Sibiri", 1957, # 5, by V. Kovalev, the head of the laboratory for plant-cultivation of the Biological Institute of the West Sibirian branch of the USSR Academy of Sciences deals with the findings of the complex research work devoted to improving agricultural conditions in Sibiria.

AVAILABLE: Library of Congress

Card 1/1

KOVALEV, V.N.

Photoperiodic reactions of certain varieties of kidney beans.
Izv..Sib. otd. AN SSSR no.7:105-116 '59. (MIRA 12:12)

1.Biologicheskiy institut Sibirskogo otdeleniya AN SSSR.
(Beans) (Photoperiodism)

SHINDIN, S.M., dotsent; KOVALEVA, V.N., dotsent; NECHAYEVA, N.N., assistent

Some anatomicohistological data on the stellate ganglion in calves enabling one to determine the point of novocaine solution injection in pneumonias. Trudy SZVI 11:239-242 '62. (MIRA 16:7)

(Cattle—Anatomy)
(Pneumonia)
(Injections, Intramuscular)

KOVALEV, V.N.

Level of fulfillment for work norms in the salt industry.
Sbor. nauch. trud. UkrNIISol' no.7:140-146 '64
(MIRA 18:1)

Ways to perfect technical work norms in the salt industry.
Ibid.:146-157

KOVALEV, V.P.; PETROV, V.M.

Use of electronics for studying combustion processes in motors with spark ignition. Trudy LPI no.187:131-136 '56. (MIRA 13:6)
(Gas and oil engines)

34030
S/109/62/007/001/008/027
D266/D301

9,1000

AUTHOR: Kovalev, V.P.

TITLE: Some methods of realizing plane electromagnetic waves under laboratory conditions

PERIODICAL: Radiotekhnika i elektronika, v. 7, no. 1, 1962, 71-77

TEXT: The purpose of the paper is to describe an antenna suitable for diffraction measurements under laboratory conditions. Since these measurements require an incident plane wave the paper is primarily concerned with realizing a uniform amplitude and phase distribution. The author first surveys the existing methods for producing plane waves and concludes that the devices used are either unsatisfacoty or too complicated. The antenna suggested by the author consists of a point source (for example a horn) and a dielectric lens which can realize a uniform phase distribution over a plane. The amplitude distribution obtained in this way has a maximum in the middle and tapers off towards the edges of the lens. By inserting into the dielectric thin lossy plates, the excess field inten-

Card 1/2

Some methods of realizing plane ...

sity can be absorbed and a uniform amplitude distribution can be attained. As experiments show the phase distribution is only slightly influenced by the lossy plates and an excellent plane wave is obtained. Measurements of field intensities in different planes along the Z axis indicate that until Z is smaller than the diameter of the lens the plane wave is essentially unchanged. This region is suitable for diffraction measurements. Some loss of power is inherent in the system, but this is not a serious disadvantage under laboratory conditions. Reflections from the lossy materials can be reduced by suitable matching technique and the amplitude distribution can be improved by placing lossy material to the edge of the lens. There are 9 figures and 10 references: 2 Soviet-bloc and 8 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: A. Ksienski, IRE Trans., 1960, Ap-8, 5, 470; G.P. Foldes, L. Solymar, Electronic and Radio Engr. 1959 36, 2, 73; J.R. Mentzer, Scattering and Diffraction of Radio Waves, London, 1955; S.T. Wiles, A.B. McLay, Canad. J. Phys., 1954, 32, 6, 372.

SUBMITTED: June 3, 1961

Card 2/2

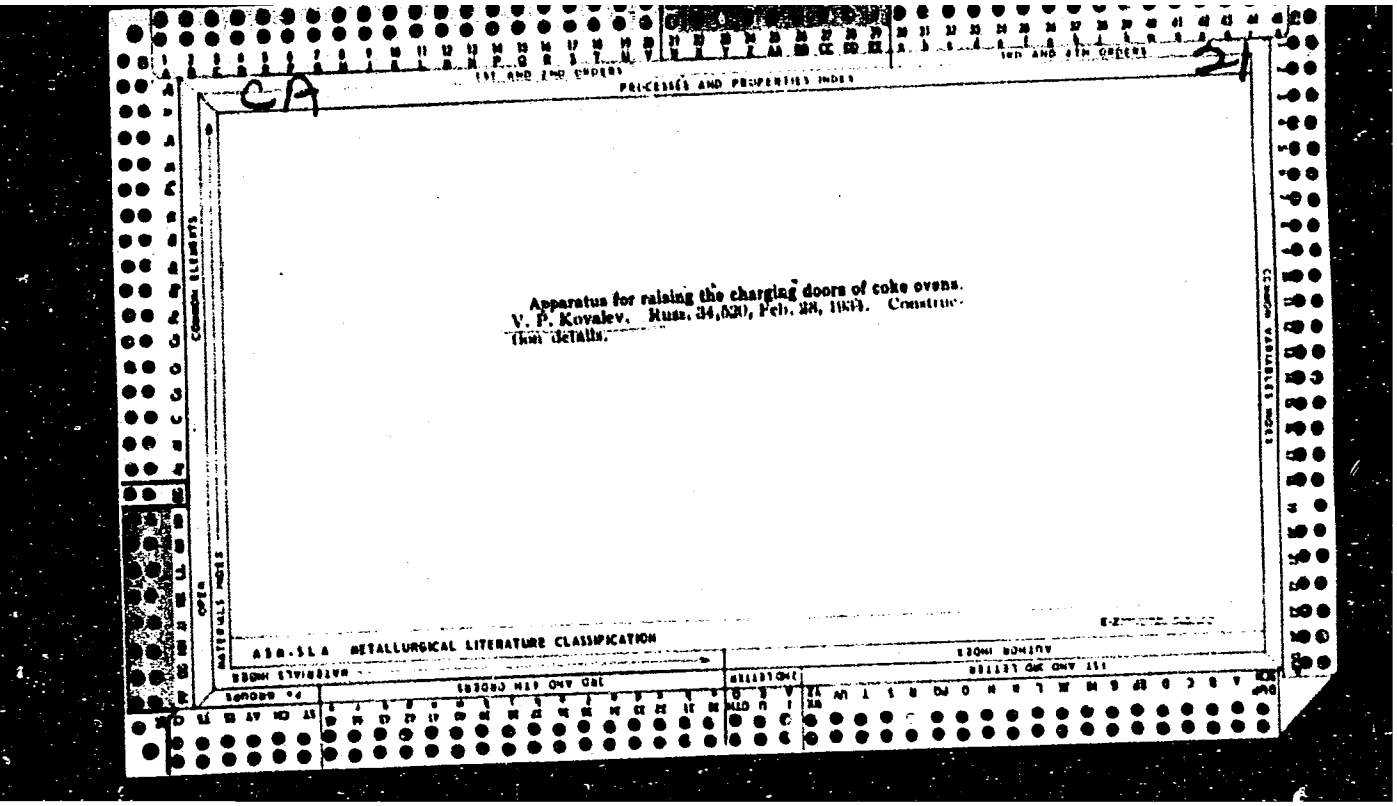
KOVALEV, V.P.; KUZNETSOV, M.G.

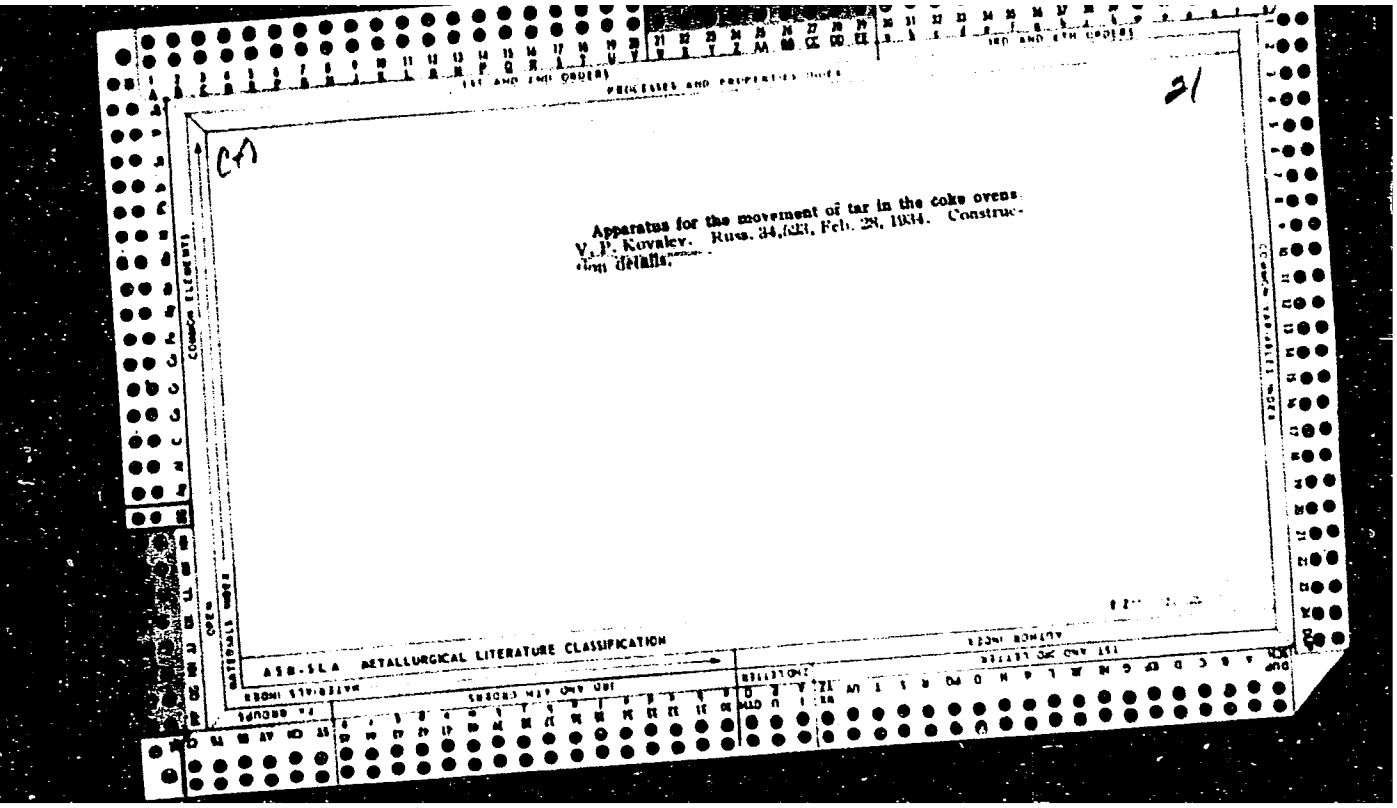
Using radio waves for flaw detection. Defektoskopiia no. 5: 25-30 '65 (MIRA 19:1)

1. Leningradskiy elektrotekhnicheskiy institut imeni Ul'yanova (Lenina).

KOVALEV, V.P.; DOBROKHOTOVA, V.K.; NABOYKIN, Yu.V.; KUKUSHKIN, L.S.

Luminescence of molecular crystals containing impurities of different solubility in the solid phase. Izv.AN SSSR.Ser.fiz. 27 no.4:524-526 Ap '63. (MIRA 16:4)
(Luminescence) (Crystal lattices)





Apparatus for the movement of tar in the coke ovens. V. P. Kovalev. Russ. 34,683, Feb. 28, 1934. Construction details.

A58-51A METALLURGICAL LITERATURE CLASSIFICATION

23

CA

The utilization of pinewood for the manufacture of pulp V. P. Kovalev. *Bumazh. Prom.* 24, No. 2, 27-31 (1949).—The development of methods for handling pine which contains 3-8% pitch (as compared to 1.0-2.5% for spruce) are outlined. Initial work in 1934 consisted of addn. of 1-2% Na_2CO_3 based on the wt. of pulp in the defibration step. Milk of lime was later used. In 1945, pulp was made from 30-40% pine by the addn. of 2-3% lime plus 5% kaolin or 0.35% sulfite liquor and 0.8% clay based on the wt. of pulp. Since that time, systematic study has shown that pitch consists of 3 classes of compds., terpene hydrocarbons, acids, primarily pimaric and pitic acids, and glyceryl esters of fatty acids. Treatment with a mixt. of CaO and NaCl during defibration is most satisfactory. Marshall Sittig

C.A.

23

The nature of pitch trouble. V. P. Kovalev. *Bumazh. Prom.* 25, No. 3, 20-5(1950).—The reaction of carbonate hardness with oleic, palmitic, stearic, and abietic acids in pitch causes the trouble in papermaking. M. Sittig

KOVALEV, V.P., kand.khim.nauk; YURCHENKO, O.N., inzh.

Control of cooking liquors in the production of chemical pulp. Bum. prom. 34 no.3:11-12 Mr '59. (MIRA 12:4)

1. Ukrainskiy nauchno-issledovatel'skiy institut tsellyuloznoy i bumazhnoy promyshlennosti.
(Woodpulp)

LUTSENKO, N.A.; KOVALEV, V.P.; YAROV, A.N.; YURCHENKO, O.N.

Utilization of black liquor wastes from woodpulp production.
Bum.i der.prom. no.4:24-25 O-D '62. (MIRA 15:12)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut ugol'noy, rudnoy, neftyanoy i gazovoy promyshlennosti i Ukrainskiy nauchno-issledovatel'skiy institut bumazhnoy promyshlennosti.
(Woodpulp industry--By-products)

ACC NR: AP6011251 (N) SOURCE CODE: UR/0413/66/000/006/0093/0094

AUTHOR: Kovalev, V. P.

ORG: none

TITLE: A defectoscope[14] working with the help of reflected radio microwaves. Class 42, No. 179977 [announced by Leningrad Electrotechnical Institute im. V. I. Ul'yanov (Lenin) (Leningradskiy elektrotekhnicheskiy institut)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 6, 1966, 93-94

TOPIC TAGS: flaw detection, radio wave, radio emission, radiometer

ABSTRACT: This Author Certificate presents a defectoscope working with the help of reflected radio microwaves. The defectoscope contains a direct (radiating) and a reversed (receiving) working waveguide and a detector. To penetrate the objects from one side, the working waveguides are provided with two auxiliary compensating waveguides containing an attenuator and a phase shifter, forming a bridge circuit with the latter (see Fig. 1). To determine the depth at which a defect is located in the mass of the product being inspected, the working waveguides are movable and may be placed at any angle to one another and to the surface of the object.

Card 1/2 UDC: 620.179.14.08

ACC NR: AP6011251

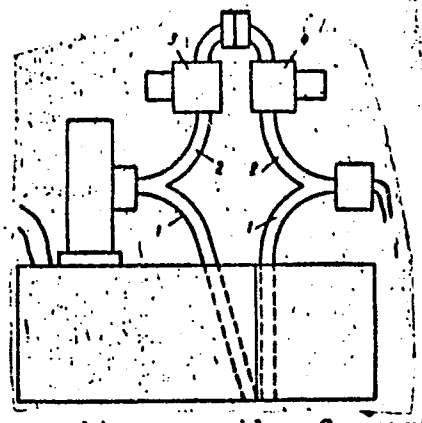


Fig. 1. 1 - working waveguides; 2 - auxiliary waveguides; 3 - attenuator; 4 - phase shifter

Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 03Mar64

Card 2/2

ACC NR: AP6021471 SOURCE CODE: UR/0413/66/000/011/0093/0093

INVENTOR: Kovalev, V. P.; Kuznetsov, M. G.

ORG: None

TITLE: Electromagnetic flaw detector. Class 42, No. 182388 [announced by the Leningrad Electrical Engineering Institute im. V. I. Ul'yanov (Lenin) (Leningradskiy elektrotekhnicheskiy institut)]

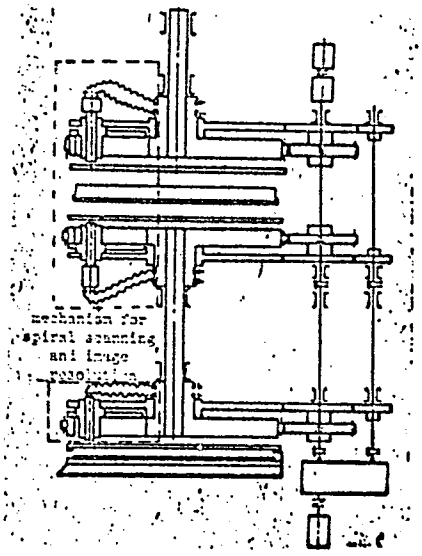
SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 11, 1966, 93

TOPIC TAGS: flaw detection, electronic equipment, SHF, body of revolution

ABSTRACT: This Author's Certificate introduces an electromagnetic flaw detector which operates in the superhigh frequency range. The installation contains a receiver, transmitter, cathode ray tube, scanning system and an image resolving system. The unit is designed for increasing productivity in checking parts having the shape of solids of revolution. The part is scanned spirally with spiral resolution of the image.

Card 1/2 UDC: 620.179.152

ACC NR: AP6021471



SUB CODE: 13, 09/ SUBM DATE: 05Feb65

Card 2/2

ACC NR: AP6021472 SOURCE CODE: UR/0413/66/000/011/0093/0094

INVENTOR: Kovalev, V. P.; Kuznetsov, M. G.

ORG: None

TITLE: A flaw detector which operates on SHF microwaves. Class 42, No. 182389 [announced by the Leningrad Electrical Engineering Institute im. V. I. Ul'yanov (Lenin) (Leningradskiy elektrotekhnicheskiy institut)]

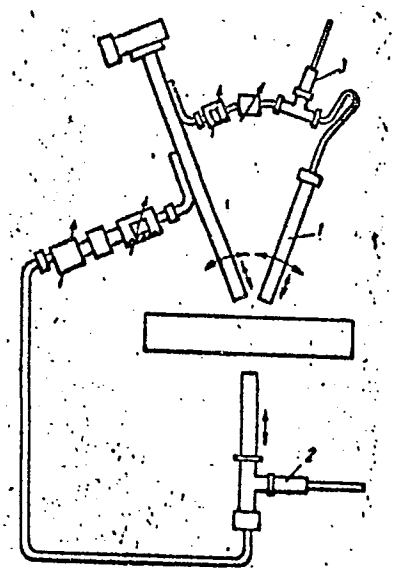
SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 11, 1966, 93-94

TOPIC TAGS: SHF, flaw detection, microwave detector, interferometer

ABSTRACT: This Author's Certificate introduces a flaw detector which operates on SHF microwaves. The installation contains an SHF microwave oscillator, transmitting antenna, interferometers connected into a single unit, a receiving probe antenna which fixes the diffraction fields when it is switched in, a directional coupler, attenuator, phase inverter, T-junction and detector head. The depth of a flaw is determined by using a second interferometer with a receiving probe antenna which fixes the diffraction fields before being switched in. This antenna is combined with a second detector head and the difference in signals at the output of the detector heads is used for determining flaw depth.

Card 1/2 UDC: 620.179.142

ACC NR: AP6021472



1--receiving probe antenna of the second interferometer; 2--detector head of the first interferometer; 3--detector head of the second interferometer

SUB CODE: 09, 13/ SUBM DATE: 05Apr65

Card 2/2

L 23260-66 EWT(m)/ETC(f)/EPF(n)-2/EWG(m)/T WW

ACC NR: AP6009153 SOURCE CODE: UR/0367/65/002/005/0839/0842

AUTHOR: Bondarenko, I. I. (deceased); Kovalev, V. P.; Zolotukhin, V. G.

ORG: none

TITLE: Possible use of a nuclear reactor in outer space for direct measurement of the nn scattering cross section

SOURCE: Yadernaya fizika, v. 2, no. 5, 1965, 839-842

TOPIC TAGS: neutron scattering, neutron cross section, neutron reaction, scattering cross section, nuclear reactor

ABSTRACT: In view of the fact that the presently attainable free-neutron densities for experiments on neutron-neutron scattering are of the order of $\sim 10^{10}$ n/cm^3, and that no measurement of neutron-neutron scattering parameters has been possible to date, the authors propose a physical experiment which would make it possible to measure directly the cross section of nn interaction in the S state. The experimental scheme consists in producing a neutron burst in an evacuated space of sufficiently large size so that scattering from the "walls" can be neglected. This can be produced by a pulsed nuclear reactor with negative temperature coefficient, raised to an altitude of 400--500 km in outer space. If one uses a detector which

Card 1/2

L 23260-66
ACC NR: AP6009153

is shielded against the "direct" neutrons, then the only neutrons that can reach the detector are those which were scattered by one another. The reactor could be launched ballistically with a geophysical rocket, and the detector could be an ionization chamber filled with He^3. The number of pulses produced by such a chamber during one neutron burst is calculated. The most suitable reactor is found to be a hydride-zirconium reactor with beryllium reflector producing 8.6×10^{17} neutrons. The possible background to be eliminated is discussed. It is concluded that nn-scattering length can be measured by this method with accuracy ±10%. The authors thank V. A. Kuznetsov, G. A. Rumyantsev, Yu. Ya. Stavisskiy, and V. S. Stavinskiy for interest in the work and valuable discussions. Orig. art. has: 1 figure and 5 formulas.

SUB CODE: 18/ 20/ SUBM DATE: 30Apr65/ ORIG REF: 003/ OTH REF: 005

Card 2/2

[redacted] [deceased]; KOVALEV, L.P.; [redacted]

Possibility of using a nuclear reactor in outer space for direct measurement of the nn-scattering cross section. Fiz. i tekh. issl. no.5:39-42 M '65. (MIRA 18:8)

L 11816-66 EWT(l)/EWP(e)/EWT(m)/ETC(F)/EWG(m)/T/EWP(t)/ETP(b) IJP(c) BDS/JD/AG/
ACC NR: AP6001650 AT/WE SOURCE CODE: UR/0051/65/019/006/0951/0955

AUTHORS: Karapetyan, G. O.; Kovalev, V. P.; Lunter, S. G.

ORG: None

TITLE: Sensitization of neodymium luminescence in glass by means of chromium

SOURCE: Optika i spektroskopiya, v. 19, no. 6, 1965, 951-955

TOPIC TAGS: neodymium glass, glass property, luminescence, optic activity

ABSTRACT: The authors investigated the energy transfer from trivalent chromium ions to Nd^{3+} ions in baryte crown glass containing 0.1 and 0.5 per cent Cr^{3+} and 0 to 5 per cent Nd^{3+}. The procedure for preparing the glass was described earlier (Opt. i spektr. v. 3, 641, 1957). The purpose of the investigation was to find a co-activator for a rare-earth ion activator, satisfying the following conditions: (a) the co-

earth ion activator, satisfying the following conditions: (a) the co-activator does not absorb or quench the TR-ion luminescence, (b) the co-activator has no absorption in the absorption region of TR ion and has broad and intense absorption bands in the absorption 'windows' of the TR-ion, (c) the co-activator is capable of effectively transferring

Card 1/2 UDC: 535.373.2

Card

L 37138-66 EWT(d)/EWP(e)/EWT(m)/EWP(c)/EWP(v)/EWP(j)/T/EWP(k)/EWP(l) IJP(c) WW/RM/WH

ACC NR: AP6014420 (A) SOURCE CODE: UR/0381/65/000/005/0025/0030

AUTHORS: Kovalev, V. P.; Kuznetsov, M. G.

ORG: Leningrad Electrotechnical Institute im. V. I. Ul'yanov (Lenin) (Leningradskiy elektrotekhnicheskiy institut)

TITLE: Application of radio waves in defectoscopy

SOURCE: Defektoskopiya, no. 5, 1965, 25-30

TOPIC TAGS: metallurgic testing machine, radio signal, radio wave, radio transmission, flaw detection, defectoscope

ABSTRACT: A defectoscope using radio waves is described. The defectoscope consists of four parts: wave emitter, a receiver, a scanning mechanism, and a signal display device (see Fig. 1).

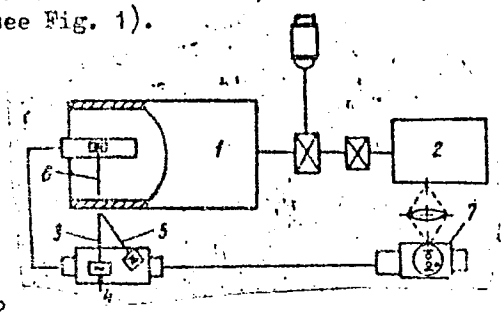


Fig. 1. Basic circuit of the mechanical part of the radio-defectoscope for testing pipes. 1 - pipe, 2 - rotating cylinder, 3 - emitting antenna, 4 - radio-wave generator, 5 and 6 - receiver antenna, 7 - fluorescent lamp.

UDC: 620.179.16

Card 1/2

L 37138-66

ACC NR: AP6014420

3

It is shown that if the refraction of the signal at the air-object interface is neglected the distances between defects in objects to be tested may be calculated by means of the formula

$$S = \sqrt{\lambda r_0 + \lambda^2/4},$$

where λ is the wave length of the incident radiation and r_0 is the minimum possible distance between the center of defect and the point of observation. An expression for the necessary intensity of the radio wave emitter was derived

$$W_s = \pi \frac{E^2}{k_2^2} \sqrt{\frac{\varepsilon^1}{\mu_0}} \sum_{n=1}^{\infty} (2n+1)(|a_n^r|^2 + |b_n^r|^2),$$

where E is the field intensity incident on a spherical inclusion; μ_0 is the magnetic permittivity of free space; ε_2 is the electric permittivity of the medium containing the inclusion, and a_n^r and b_n^r are constants given in the book by Dzh. A. Stretton (Teoriya elektromagnetizma, M., Gostekhizdat, 1946). It is concluded that radio-defectoscopes may be successfully applied in the detection of defects in objects made of dielectrics and poor conductors, fiber-glass plastics, rubber, ceramics, etc. Orig. art. has: 6 figures and 4 equations.

SUB CODE: 14,17/ SUBM DATE: 28Jul65/ ORIG REF: 003/ OTH REF: 003

Card 2/2 af

KOVALEV, V.P.

AUTHORS: Kovalev, V.P., Andreyev, N.V., Nikolayev, M.N., 56-4-[illegible]
Guseynov, A.G.,

TITLE: A Comparison of the Fission Neutron Spectra of U^{233},U^{23}[illegible]39 (Sravneniye spektrov neytronov deleniya U^{233},U^{235},Pu^{239}) (Letter to the Editor)

PERIODICAL: Zhurnal Eksperim. i Teoret.Fiziki, 1957,Vol. 33, Nr 4, pp 1069-1071 (USSR)

ABSTRACT: The fission neutron spectra of U^{23o},U^{235},Pu^{239} were compared with each other by means of different neutron detectors. The targets from U^{233},U^{235},Pu^{239} were brought to fission in the thermal column of a reactor. The obtained results show that the fission neutron spectrum of U^{233} and Pu^{239} is harder than that of U^{235}. The rise of temperature for U^{233}, and Pu^{239} respectively as compared to U^{235} amounts to 0,04 $\pm$ 0,01 MeV and 0.05 $\pm$ 0,01 MeV. The temperatures of the fission fragments of U^{233} and Pu^{239} were determined with 1,02 $\pm$ 0,01 and 1,06 $\pm$ 0,01 MeV, in which connection 1,00 MeV was assumed for the temperature of the fission fragments of U^{235} The rise of the mean neutron energy of the spontaneous fission Cf^{252} in proportion to the fission neutrons of U^{235} is 9-11%. There are 1 table and 2 Slavic references.

ASSOCIATION: None Given.
SUBMITTED: July 19, 1957
AVAILABLE: Library of Congress.

Card 1/1

KOVALEV, V.P., Cand Phys-Math Sci--(diss) "Energy spectra of ~~instantaneous~~ prompt neutrons ~~of fission~~ from fission" Mos, 1958. 19 pp (Main Administration of the Use of Atomic Energy ~~at~~ under the Council of Ministers USSR. Physics Institute), 120 copies Bibliography: pp 18-19 (33 titles)

(KL, 45-58, 141)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825610008-1"

SOV/120-58-2-1/37

AUTHOR: Kozlov, V. P.

TITLE: Measurement of Phase Differences - A Review (Izmereniye raznosti faz - obzor)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1958, Nr 2, pp 3-11 (USSR)

ABSTRACT: A review is given of the various methods of measuring phase differences between electrical signals. The various phasometers known at present are listed in a way which allows a choice to be made of the best phasometer for the given problem. The phasometers are divided into two main groups: non-inertial and inertial. The first group includes the following:- (1) Linear time base method. The indicating instrument in this case is a CRO tube and the necessary signal amplitude is a few tens of volts. The frequency range (without heterodyning) is up to 10^6 c/s, the resolution is 2 to 5° and the main source of error is the diameter of the electron beam and the curvature of the leading edges of pulses. (2) Circular time base method. Here the amplitude required is again tens of volts, the frequency range is 10^6 c/s, the resolution is about 1° and the main source of error is as above. (3) The method of Lissajous figures. Here the indicator

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Measurement of Phase Differences - A Review.

and the necessary signal amplitude is the same as above while the frequency range is up to 10^7 and the resolution is about 1°. The main source of error is the diameter of the spot. The following methods in the "inertial group" are considered. (1) The sum and difference method. This depends on the fact that the amplitude of both the sum and the difference of two harmonic signals is a function of the cosine of the phase difference between them. The two signals may be added or subtracted by means of the networks given in the present paper. A pointer instrument serves as the indicator, the minimum signal amplitude is a fraction of a volt, and the frequency range is up to 10^8 c/s. The resolution is about 0.5° and the main source of error is in the measurement of the voltages and in the constancy of the amplitude. (2) Phase detectors. These are based on the transformation of changes in the phase differences between the two signals into changes in the strength of a DC current or voltage. Here the two signals are rectified and fed into resistances shunted by integrating condensers.

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The output voltage (DC) depends both on the phase difference and the amplitude of the signals. The scale is non-linear. A balanced phase detector does not have these disadvantages to the same extent (Fig.14). In the latter case the resolution is about a minute or a fraction of a minute. The frequency range is up to 10^5 c/s and the accuracy is governed by the calibration of the output instrument and the constancy of the amplitude. (3) The electronic relay method. The time during which the relay remains in a given state is a function of the phase difference only. The accuracy of this method is governed by the curvature of the leading edges of the pulses and its resolution is 1 to 2^0. The method is not very accurate near 0 or 360^0. There are 16 figures, 1 table and 49 references, of which 1 is Polish, 2 are Swedish, 5 are German, 22 are English and the rest are Soviet.

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AUTHORS: Kovalev, V. P., Stavinskiy, V. S. SOV/89-5-6-11/25

TITLE: The Systematology of the Spectra of Prompt Neutrons of Fission (Sistematika spektrov mgnovennykh neytronov deleniya)

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ABSTRACT: Experimental investigations (Refs 1, 2, 3) showed that the spectra of fission neutrons of U^{233}, Pu^{239}, and Cf^{252} are harder than the fission spectrum of U^{235}. Furthermore, an increase of the hardness of U^{233} to Cf^{252} can be observed. On the basis of the evaporation model the attempt is made to verify experimental data theoretically.
An analysis of the spectrum of fission neutrons shows that it is possible, by means of the evaporation model (evaporation of neutrons from the moving fission fragments), to explain both the shape of the spectrum and the difference in hardness. With respect to their thermodynamic properties, the fission fragments are equivalent to a normal nucleus. Analysis makes it possible to draw the following conclusions:

1) The hardness of the spectrum of fission neutrons increases

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